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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,822	09/01/2005	Takashi Kushida	050107	1649
23850 7590 07/28/2008 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
TRAIL, ALLYSON NIEL				
ART UNIT		PAPER NUMBER		
2876				
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07/28/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/524,822

**Applicant(s)**

KUSHIDA, TAKASHI

**Examiner**

ALLYSON N. TRAIL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date 2/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Amendment***

1. Receipt is acknowledged of the Preliminary Amendment filed February 18, 2005.

### ***Information Disclosure Statement***

2. The Information Disclosure Statement filed on February 18, 2005 has been considered. An initialed copy of the Form 1449 is enclosed herewith.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 6, 7, and 9-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Tam et al (2003/0194578), hereinafter Tam.

With respect to claim 1, Tam discloses in the abstract security articles containing material with a particulate information presenting substance.

Paragraph 0003 specifically states that security fibers are fibers incorporated in documents or other articles for the purpose of ensuring identification, authentication, and protection against forgery, imitation or falsification.

Paragraph 0024 discloses that the security article includes at least one element which includes at least one luminescent substance, wherein each luminescent substance is selected from at least one fluorescent substance.

Paragraph 0028 teaches the fluorescent responses depend on the excitation light energy in the ultraviolet, visible, and infrared regions of the electromagnetic spectrum. The security article is produced to include the different luminescent substances, which emit a different range of fluorescence, therefore it is clear that the emitting of the different range of fluorescence depends on the production history.

Paragraph 0119 teaches that the security article is assigned with a mode of cipher information (such as a bar code) since having been produced by the production history corresponding to the cipher information.

With respect to claim 2, Tam teaches in the abstract that the information presenting substance is arranged to emit one or more line spectrum depending on the production history when exposed to the predetermined wavelength range of electromagnetic wave. Specifically it is disclosed that the security articles' information presenting substance employees particle scattering and luminescent technology based on scattering, electronic, magnetic and/or light properties to provide compound physical coloration responsive to various portions of the electromagnetic spectrum, including ultraviolet, ambient and infrared.

With respect to claim 6, see Tam's teachings above with regards to claim 1. Additionally, Tam teaches in paragraph 0037 being able to identify the material by the

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multiple luminescent responses when the material is excited by one or more illumination wavelengths.

With respect to claim 7, see Tam's teachings above with regards to claims 1 and 6.

With respect to claims 11 and 13, Tam teaches in paragraph 0046, the information presenting substances ranging from 1 nm to 100nm in the particle diameter.

With respect to claims 12, 14, and 15, Tam teaches in paragraph 0060 the information presenting substance being coated at the outer surface with another substance.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tam in view of Riseberg et al (4,004,178).

Tam's teachings are discussed above. Tam additionally teaches in paragraph 0002 using materials which include earth ions. Tam however fails to specifically teach the material, wherein the information presenting substance includes a transition element of incomplete 3d shell and/or a transition element of incomplete 4f shell.

With respect to claims 3-5 and 8-10, Riseberg discloses in column 2, lines 35-46 using various materials which include earth ions and that the primary motivation for this

interest in the rare earth ions is that this class of ions is characterized by having a completed outer shell of electrons and an incomplete inner shell, the 4f shell, in which certain electronic transitions may occur between specific energy states. A number of these transitions from a high energy state to a low energy state occur with the release of energy in the form of light, i.e., these ions exhibit fluorescence.

In view of Riseberg's teachings, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to a substance which includes a transition element of incomplete 4f shells in the material taught by Tam. As is taught by Riseberg, one would be motivated to use a class of ions having an incomplete 4f shell, in order to exhibit the fluorescence property as is desired by Tam's teachings.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Empedocles et al (2004/0178338), Philyam et al (2005/0035207), Perry et al (6,832,729), Feng (6,123,263), Jalon (4,921,280), and Boehn (4,897,300).
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (571) 273-8300.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [allyson.trail@uspto.gov].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

/Allyson N. Trail/  
Allyson N. Trail  
Patent Examiner  
Art Unit 2876

July 24, 2008